



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

May 13, 2011

Mr. Dennis R. Madison
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch parkway North
Baxley, GA 31513

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC TEMPORARY INSTRUCTION
2515/183 INSPECTION REPORT 05000321/2011010, 05000366/2011010

Dear Mr. Madison:

On April 29, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Edwin I. Hatch Nuclear Plant, Units 1 and 2, using Temporary Instruction 2515/183, "Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event." The enclosed inspection report documents the inspection results which were discussed on April 28, 2011, with Mr. Barger and other members of your staff.

The objective of this inspection was to promptly assess the capabilities of Edwin I. Hatch, Units 1 and 2, to respond to extraordinary consequences similar to those that have recently occurred at the Japanese Fukushima Daiichi Nuclear Station. The results from this inspection, along with the results from this inspection performed at other operating commercial nuclear plants in the United States will be used to evaluate the U.S. nuclear industry's readiness to safely respond to similar events. These results will also help the NRC to determine if additional regulatory actions are warranted.

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report. You are not required to respond to this letter.

SNC

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Docket Nos. 50-321, 50-366
License Nos. DPR-57 and NPF-5

Enclosure: Inspection Report 05000321/2011010, 05000366/2011010

cc w/encl: (See page 3)

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ADAMS: ☐ Yes

ACCESSION NUMBER: ML111330108

☐ SUNSI REVIEW COMPLETE ☐ FORM 665 ATTACHED

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Letter to Dennis R. Madison from Scott M. Shaeffer dated May 13, 2011

SUBJECT: EDWIN I. HATCH NUCLEAR PLANT – NRC TEMPORARY INSTRUCTION
2515/183 INSPECTION REPORT 05000321/2011010, 05000366/2011010

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U. S. NUCLEAR REGULATORY COMMISSION

REGION 2

Docket Nos: 50-321, 50-366

License Nos: DRP-57 and NPF-5

Report No: 05000321/2011010, 05000366/2011010

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Edwin I. Hatch Nuclear Plant

Location: Baxley, Georgia 31513

Dates: March 29 – April 29, 2011

Inspectors: E. Morris, Senior Resident Inspector
D. Hardage, Resident Inspector

Approved by: Scott M. Shaeffer, Chief
Reactor Projects Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000321/2011010, 05000366/2011010; 03/29/2011 – 04/29/2011; Edwin I. Hatch Nuclear Plant, Units 1 and 2, Temporary Instruction 2515/183 – Follow-up to the Fukushima Daiichi Nuclear Station Fuel Damage Event

This report covers an announced Temporary Instruction inspection. The inspection was conducted by resident inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

INSPECTION SCOPE

The intent of the TI is to provide a broad overview of the industry's preparedness for events that may exceed the current design basis for a plant. The focus of the TI was on (1) assessing the licensee's capability to mitigate consequences from large fires or explosions on site, (2) assessing the licensee's capability to mitigate station blackout (SBO) conditions, (3) assessing the licensee's capability to mitigate internal and external flooding events accounted for by the station's design, and (4) assessing the thoroughness of the licensee's walk downs and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. If necessary, a more specific follow-up inspection will be performed at a later date.

INSPECTION RESULTS

All of the potential issues and observations identified by this inspection are contained in this report. The NRC's Reactor Oversight Process will further evaluate any issues to determine if they are regulatory findings or violations. Any resulting findings or violations will be documented by the NRC in a separate report.

Enclosure

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

Licensee Action	Describe what the licensee did to test or inspect equipment.																								
<p>a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee performed walk downs, inspections and testing of non-permanently installed equipment used for B.5.b and severe accident management strategies as follows:</p> <table><tr><th>Reptask No.</th><th>Responsible Dept</th><th>Frequency</th><th>Scope</th></tr><tr><td>OPS5</td><td>Operations</td><td>Annually</td><td>Inventory all B.5.b equipment. Performed 3/20/11.</td></tr><tr><td>OPS-4</td><td>Fleet Services</td><td>Annually</td><td>Preventative Maintenance on pump.</td></tr><tr><td>OPS-3 /OPS-5</td><td>Operations</td><td>QTRLY/84 day</td><td>Inspect, set up and operate extensive damage mitigation guidelines (EDMG) pump. Performed 3/20/11.</td></tr><tr><td>73EP-INS-001-1</td><td>Emergency Planning</td><td>QTR</td><td>Inventory all B.5.b procedures and equipment located in the Training Center. Check operability of communications equipment and flashlights. Performed 3/18/11.</td></tr><tr><td>OPS-2</td><td>Operations</td><td>6 Months</td><td>Set up and operation of the emergency management guidelines (EMG) Portable Power Supply. Performed 3/20/11</td></tr></table>	Reptask No.	Responsible Dept	Frequency	Scope	OPS5	Operations	Annually	Inventory all B.5.b equipment. Performed 3/20/11.	OPS-4	Fleet Services	Annually	Preventative Maintenance on pump.	OPS-3 /OPS-5	Operations	QTRLY/84 day	Inspect, set up and operate extensive damage mitigation guidelines (EDMG) pump. Performed 3/20/11.	73EP-INS-001-1	Emergency Planning	QTR	Inventory all B.5.b procedures and equipment located in the Training Center. Check operability of communications equipment and flashlights. Performed 3/18/11.	OPS-2	Operations	6 Months	Set up and operation of the emergency management guidelines (EMG) Portable Power Supply. Performed 3/20/11
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Enclosure

	Describe inspector actions taken to confirm equipment readiness (e.g., observed a test, reviewed test results, discussed actions, reviewed records, etc.).
	Inspectors walked down licensee equipment utilized to implement B.5.b and severe accident management guidelines with licensee personnel. The following equipment was walked down: the EDMG portable pump, the fire trailer which contains the portable 5 inch fire hydrant used to implement alternate reactor pressure vessel (RPV) injection strategy, the EMG portable power supply which is dedicated for safety relief valve (SRV) operation and hoses and nozzles staged in the reactor buildings for alternate spent fuel pool fill.
	Discuss general results including corrective actions by licensee.
	<p>Licensee wrote the following condition reports (CRs) based on licensee walk downs:</p> <ul style="list-style-type: none"> • CR 2011103172 written to document suction strainer degradation. • CR 2011103174 written to have a building constructed to house the EDMG pump. <p>During inspector walkdowns with the licensee, the equipment was located in the designated storage areas and was generally observed to be in good condition. However, a tool used for installing the RPV alternate injection flange was not in good working order and some additional needed tools were not available at the local tool box dedicated for this activity. The licensee generated CR 2011104782 to document this issue, and took immediate actions to replace/add needed tools.</p>

Licensee Action	Describe the licensee's actions to verify that procedures are in place and can be executed (e.g. walkdowns, demonstrations, tests, etc.)
<p>b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee walked down the following procedures to ensure the strategies were executable.</p> <ul style="list-style-type: none"> • B.5.b/EDMG pump strategies and surveillances • The emergency operating procedures (EOPs) • The severe accident guidelines (SAGs) • Remote shutdown procedures <p>In the event that there is a total loss of alternating current (AC) power, use of the B.5.b strategies would become necessary, those strategies are written to work with the EOPs as well as remote shutdown procedures. Severe Accident Guidelines (SAG) are entered when the core cannot be kept covered and it is necessary to flood primary containment. Again, the B.5.b guidelines are written to implement SAG strategies in the case of a beyond design basis event with a loss of AC/ direct current (DC) power. The licensee also walked down the AB-Y22 series of procedures that include Man Made Hazard, Naturally Occurring Phenomena, Security Events and B.5.b.</p> <p>The licensee concluded all of the above mentioned strategies are sound and will work.</p> <p>Describe inspector actions and the sample strategies reviewed. Assess whether procedures were in place and could be used as intended.</p>

	<p>The inspectors walked down several B.5.b/SAMG strategies on both units with licensee personnel including:</p> <ul style="list-style-type: none"> • 31EO-TSG-001-0, Attachment 3, RPV Makeup • 31EO-TSG-001-0, Attachment 5, [Spent Fuel Pool] External Makeup/Spray/Runoff Control • 31EO-TSG-001-0, Attachment 6, SRV Actuation Without Power to Allow Injection with Portable Pump • 31EO-TSG-001-0, Attachment 10, Manually Open Containment Vent Lines <p>The inspectors questioned whether 31EO-TSG-001-0, Attachment 6, and Attachment 10, could be performed as intended as noted below.</p>
	<p>Discuss general results including corrective actions by licensee.</p>
	<p>The licensee concluded all of the B.5.b/SAMG strategies are sound and will work. The licensee noted that all strategies are limited to a single unit event. The licensee generated the following CRs based on licensee walk downs of B.5.b procedures and SAMG strategies:</p> <ul style="list-style-type: none"> • CR 2011103186 - Need to incorporate a flow meter to the EDMG pump for acceptance criteria. • CR 2011103188 - For a postulated dual unit beyond design basis event, adding 5 inch hose connection through the condensate transfer pump enclosures and a 5 inch hose fitting on the discharge check valves would greatly enhance flow rates to either the reactor vessel or primary containment, along with another EDMG pump or Fire Pumper Truck. • CR 2011103189 - Only one portable EMG DC power supply is available for SRV operation, for a dual unit event, a second portable power supply would be beneficial. • CR 2011103190 - Procedure 31EO-TSG-002-0 has a section for restoring 600VAC emergency buses and battery chargers. The procedure should be enhanced to include both 600VAC emergency buses. This would include having a contract to have four 400KW 600VAC portable diesel generators for a dual unit event. • CR 2011103191 - Develop a method to make a residual heat removal service water (RHRSW) connection, procedural guidance and equipment for a more robust method for suppression pool cooling.

	<ul style="list-style-type: none"> • CR 2011103234 - Consider adding a section to 31EO-TSG-001-0 to align torus spray using fire pumps or the EMDG portable pump to cool the suppression pools. • CR 2011103194 - Enhance the section in 34AB-G41-001-1/2 allowing for operation of DHR without AC power available, this would include a long term contract for the DHR temporary power supply (480 VAC Diesel Generator). • CR 2011103231 - 34AB-Y22-001-0 does not refer the user to applicable 34AB-Y22 series procedures. Procedure enhancement is needed. <p>The inspectors questioned whether the manual operation of the hardened vent procedure could be performed as written. 31EO-TSG-001-0, Attachment 10, Manually Open Containment Vent Lines, involves moving air bottles into the torus area under adverse heat conditions. This procedure has operators periodically vent the torus to relieve pressure in the drywell and torus. The inspectors determined that this procedure may not be able to be performed due to the high temperature conditions expected to exist within the area that operators would be required to enter to install rigs and operate dampers. During the implementation of this procedure, the torus temperature is anticipated to be at or near saturation temperatures and operators would be required to access the torus area to perform the venting operations. In addition, some operations on Unit 1 require operators to disconnect and install air lines by climbing and standing on piping directly over a 30 ft drop. This operation would normally require scaffolding, and would require some personal safety risk to perform with no prior scaffold support. The licensee generated condition reports CR 2011105966 and CR 2011106007 to document these issues.</p> <p>The inspectors questioned whether operation of the SRV's during a loss of all power could be performed as written. 31EO-TSG-001-0, Attachment 6, SRV Actuation Without Power to Allow Injection with Portable Pump, has never been physically performed (SRVs stroke using a portable generated power source). Inspectors questioned the electrical isolation of the station's DC system while performing this procedure. The concern is that the temporary system will back feed the station's DC buses and overload the portable generator. In addition, station drawings referenced in this procedure state that the terminal boards where Unit 2 temporary electrical connections are designated to be connected, are coated which may impact the ability to make effective electrical connections. The licensee generated condition report CR 2011106008 to document these issues.</p>
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Licensee Action	Describe the licensee's actions and conclusions regarding training and qualifications of operators and support staff.
c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).	<p>The licensee states Plant Hatch maintains adequate numbers of qualified personnel in the Emergency Response Organization (ERO) to meet all required on-shift and 60 minute response positions required by the Hatch Nuclear Plant Emergency Plan. All minimum on-shift required ERO response positions are verified each shift and a qualified ERO member is on-call for each 60 minute required response position at all times. The Southern Nuclear Company ERO Recall System will attempt to notify all assigned ERO members and is not limited to contacting only the on-call personnel. The licensee reviewed qualifications of ERO members and determined no gaps existed. B.5.b training and severe accident management guidelines training and walkthroughs are required as part of initial licensed and non-licensed operators qualifications. Through the continuing training process licensed and non-licensed operators review B.5.b and severe accident management guidelines. B.5.b strategies located as attachments in procedure 31EO-TSG-001-0, Technical Support Guidelines. These attachments are included as job performance measures that evaluators may chose to have licensed and non-licensed operators demonstrate the ability to perform. Initial and continuing training records of those personnel designated as non-licensed operators and licensed operators, who would implement B.5.b and severe accident strategies, were reviewed and no qualification gaps were identified.</p>
	Describe inspector actions and the sample strategies reviewed to assess training and qualifications of operators and support staff.
	Inspectors reviewed qualification and training records and verified those personnel designated as qualified licensed and non-licensed operators have received initial and continue to receive continuing training on B.5.b and SAMG strategies.
	Discuss general results including corrective actions by licensee.
	Licensed and non-licensed operators have received initial and continuing training on B.5.b and SAMG strategies and no qualification gaps were identified. Inspectors noted the implementation of B.5.b strategies is manpower intensive and the minimum required shift staffing would require manpower augmentation to complete many of these strategies in a timely manner.

Licensee Action	Describe the licensee's actions and conclusions regarding applicable agreements and contracts are in place.
<p>d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.</p> <p>This review should be done for a reasonable sample of mitigating strategies/equipment.</p>	<p>The licensee determined that Memorandums of Agreement (MOAs) are in place to allow for police, fire, emergency equipment and medical assistance from the surrounding counties and state of Georgia. MOAs agencies are listed below.</p> <p>Appling County Emergency Management Agency Jeff Davis County Emergency Management Agency Tattnall County Emergency Management Agency (Civil Defense) Toombs County Emergency Management Agency Appling County Sheriff's Department Jeff Davis County Sheriff's Department Tattnall County Sheriff's Department Toombs County Sheriff's Department Appling General Hospital System Meadows Regional Medical Center U.S. Department of Energy U.S. Department of Commerce Teledyne Brown Engineering Environmental Services</p> <p>The licensee routinely performs functional tests of notification systems utilized to activate offsite response plans as part of routine emergency communications testing protocols. Notification of offsite agencies through these systems serves to activate offsite emergency response plans. These systems were tested on 03/21/11. All equipment functioned as designed and no issues were identified. Activation of the offsite response plans is performed annually and evaluated by the Federal Emergency Management Agency (FEMA) on a biennial basis. Additionally, each State is required to submit to FEMA an annual letter of certification documenting emergency preparedness activities conducted during the year.</p> <p>The licensee contacted Local Emergency Management Directors to verify the capability to implement their respective emergency plans. Additionally, State Emergency Management Radiological Emergency Preparedness Managers were contacted to verify the capability to</p>

	implement the respective State Emergency Plan. Each agency confirmed the validity of existing emergency plans. No issues were identified.
	For a sample of mitigating strategies involving contracts or agreements with offsite entities, describe inspector actions to confirm agreements and contracts are in place and current (e.g., confirm that offsite fire assistance agreement is in place and current).
	The inspectors reviewed a sampling of the MOA letters of agreement above and verified that these agreements are in place.
	Discuss general results including corrective actions by licensee.
	No issues were noted by the licensee or the inspectors in this area.
Licensee Action	Document the corrective action report number and briefly summarize problems noted by the licensee that have significant potential to prevent the success of any existing mitigating strategy.
e. Review any open corrective action documents to assess problems with mitigating strategy implementation identified by the licensee. Assess the impact of the problem on the mitigating capability and the remaining capability that is not impacted.	<p>Licensee wrote the following CRs based on licensee walk downs:</p> <ul style="list-style-type: none"> • CR 2011103172 written to document suction strainer degradation. • CR 2011103174 written to have a building constructed to house the EDMG pump. • CR 2011103186 - Need to incorporate a flow meter to the EDMG pump for acceptance criteria. • CR 2011103188 - For a postulated dual unit beyond design basis event, adding 5 inch hose connection through the condensate transfer pump enclosures and a 5 inch hose fitting on the discharge check valves would greatly enhance flow rates to either the reactor vessel or primary containment, along with another EDMG pump or Fire Pumper Truck. • CR 2011103189 - Only one portable EMG DC power supply is available for SRV operation, for a dual unit event a second portable power supply would be beneficial. • CR 2011103190 - Procedure 31EO-TSG-002-0 has a section for restoring 600VAC Emergency busses and battery chargers. The procedure should be enhanced to include both 600VAC emergency busses. This would include having a contract to have four 400KW 600VAC portable diesel generators for a dual unit event.

	<ul style="list-style-type: none">• CR 2011103191 - Develop a method to make an RHRSW connection, procedural guidance and equipment for a more robust method for suppression pool cooling.• CR 2011103234 - Consider adding a section to 31EO-TSG-001-0 to align torus spray using fire pumps or the EMDG portable pump to cool the suppression pools.• CR 2011103194 - Enhance the section in 34AB-G41-001-1/2 allowing for operation of DHR without AC power available, this would include a long term contract for the DHR temporary power supply (480 VAC Diesel Generator).• CR 2011103231 - 34AB-Y22-001-0 does not refer the user to applicable 34AB-Y22 series procedures. Procedure enhancement is needed. <p>Licensee wrote the following CRs based on NRC questions:</p> <ul style="list-style-type: none">• CR 2011105966 – potential time restraints during a station black out event to perform containment emergency venting. Easy access to valves is needed to complete flow path alignment in a timely manner.• CR 2011106007 – Adverse temperature environment within the torus area could make this area inaccessible and therefore implementation of procedures to use the hardened vent without power may not be able to be accomplished.• CR 2011106008 – Procedure for operation of safety relief valves utilizing portable DC power generator does not address isolating the safety relief valve electrically prior to establishing power which would result in overloading the portable DC generator.
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03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, "Loss of All Alternating Current Power," and station design, is functional and valid. Refer to TI 2515/120, "Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22," as a guideline. It is not intended that TI 2515/120 be completely reinspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:	
Licensee Action	Describe the licensee's actions to verify the adequacy of equipment needed to mitigate an SBO event.
a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.	The licensee performed a review of the SBO coping evaluation and concluded that the various systems and components required for reactor core cooling are available. The licensee performed the following reviews: the emergency diesel generator 1B, in conjunction with the battery capacity, adequacy for the 4 hour coping duration; the ability to maintain RCS inventory and containment integrity during an SBO; and the effects of the loss of ventilation on equipment needed for SBO. The licensee determined that the plant can successfully cope with the SBO event for the required 4 hour duration with negligible impact on the equipment qualified life and with no impact on the operability of the equipment. The licensee walked down all SBO equipment and did not identify any gaps or vulnerabilities.
	Describe inspector actions to verify equipment is available and useable.
	The inspectors assessed the licensee's capability to mitigate SBO conditions by conducting a review of the licensee's walkdown activities. In addition, the inspectors selected a sample of equipment utilized/required for mitigation of an SBO and conducted independent walkdowns of that equipment to verify that the equipment was properly aligned and staged.
	Discuss general results including corrective actions by licensee.
	The licensee's reviews verified that SBO equipment was ready to respond to an SBO condition. The inspector's conclusions aligned with the results obtained by the licensee.

Licensee Action	Describe the licensee's actions to verify the capability to mitigate an SBO event.
b. Demonstrate through walkdowns that procedures for response to an SBO are executable.	The licensee reviewed procedures which would be used during implementation of restoring from an SBO as described in the Updated Final Safety Analysis Report. During the licensee's review, two enhancement CR's were written and documented below.
	Describe inspector actions to assess whether procedures were in place and could be used as intended.
	The inspector walkdown the manual operation of reactor core isolation cooling procedure with licensee personnel. No issues were identified during this walkdown.
	Discuss general results including corrective actions by licensee.
	<p>The licensee issued the following CRs for issues that they noted:</p> <ul style="list-style-type: none"> • CR 2011103453/2011103457 for minor editorial changes to 34AB-R22-003-1/2. • CR 2011103684 on the need to identify additional indications for local reactor core isolation cooling (RCIC) operation.
	The inspectors noted Hatch is a 4 hour coping plant that assumes the availability of its alternate AC source required by 10CFR50.63 within 1 hour. Hatch's alternate AC power source is the 1B EDG. Site station blackout procedures are written only for a one hour SBO. After one hour, the alternate AC source is assumed available. Hatch's procedures do not provide specific guidance for a prolonged loss of normal or alternate AC power, which is outside of the plant design basis.

03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, "Adverse Weather Protection," Section 02.04, "Evaluate Readiness to Cope with External Flooding," as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.	
Licensee Action	Describe the licensee's actions to verify the capability to mitigate existing design basis flooding events.
a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.	The requisite walkdowns were performed for Plant Hatch, Units 1 and 2, from March 25, 2011, to April 5, 2011, by the licensee in response to engineering evaluation work order RER C110371101. The walkdowns at Hatch were conducted in teams generally consisting of two to three licensee individuals. The scope of the walkdowns and the associated acceptance criteria were defined by RER C110371101. Portions of the Unit1 and 2 Reactor Buildings, the Emergency Diesel Generator Building, Intake Structure, and site grounds were investigated.
	Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.
	The licensee's actions as discussed above were completed prior to the issuance of NRC TI 2515/183. The inspectors assessed the licensee's capabilities by conducting a review of the licensee's walkdown activities. In addition, the inspectors independently walked down and inspected the licensee's capabilities to mitigate flooding by conducting a review of the licensee's walkdown activities. In addition, the inspectors conducted independent walkdowns of selected flood mitigation equipment to contribute to the overall assessment of the licensee's flood mitigating capabilities. Licensee flood mitigation procedures were reviewed to verify usability. The inspector's conclusions aligned with the results obtained by the licensee.

	<p>Discuss general results including corrective actions by licensee.</p> <p>Hatch CRs 2011104135, 4138, 4140, 4141 through 4146, 4149, 4150 through 4153, 4155, 4156 through 4160, and 4162 were written for detailed information documenting the below categories of deficient conditions:</p> <ul style="list-style-type: none"> • Floor drain configurations (incorrectly plugged or open when compared to design bases). • Lower than expected floor curb and penetration heights. • Minor site grading and drainage issues.
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<p>03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. Assess the licensee's development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary) such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, "Component Design Basis Inspection," Appendix 3, "Component Walkdown Considerations," as a guideline to assess the thoroughness of the licensee's walkdowns and inspections.</p>	
<p>Licensee Action</p>	<p>Describe the licensee's actions to assess the potential impact of seismic events on the availability of equipment used in fire and flooding mitigation strategies.</p>
<p>a. Verify through walkdowns that all required materials are adequate and properly staged, tested, and maintained.</p>	<p>The Southern Nuclear Corporate Fire Protection group provided Plant Hatch with a preliminary list of important areas and fire suppression equipment for consideration in responding to this area. Plant Hatch staff reviewed the Fire and Flood design basis with support from Southern Nuclear Corporate Engineering. Teams were assembled to walk down and inspect all accessible Structures, Systems, and Components. "Guideline for Assessing Fire Suppression Capabilities" and "Guideline for Assessing Flood Mitigation" were used as primary guidance in performing the evaluations. The walkdowns focused on degraded material condition that could impact the ability of fire or flood mitigation equipment to function in the event of a seismic event. All accessible areas/rooms in and around the reactor buildings, control buildings, turbine buildings, intake structure, diesel generator building, circulating water canals, main and auxiliary transformers, fire water storage tanks, fire pump house, fire pump diesel fuel oil tanks, switchyard fire protection valve houses, and</p>

	<p>portable firefighting storage facilities were walked down by Plant Hatch staff. Plant staff conducted a majority of the plant inspections in parallel with Section 03.04 walk downs. Equipment dedicated to B.5.b was inspected per Section 03.01. Plant abnormal operating and emergency preparedness procedures were reviewed for feasibility in a design basis seismic event.</p> <p>The licensee determined through their inspections and reviews that Plant Hatch has the equipment, procedures, and agreements to respond to design basis fire and flood events (i.e. no gaps to existing requirements were identified). The licensee acknowledged that there is a general beyond-design-basis vulnerability associated with the plant's non-seismic fire protection structures, systems, and components, particularly with the buried fire protection piping. Enhancement opportunities exist in responding to other beyond design basis considerations, procedure clarifications, equipment staging for seismic events, and housekeeping. The licensee staff also recognized training opportunities for additional Severe Accident Mitigation Guidelines and accidents beyond design basis.</p>
	<p>Describe inspector actions to verify equipment is available and useable. Assess whether procedures were in place and could be used as intended.</p> <p>The inspectors conducted multiple walkdowns of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during a seismic event. This equipment included, but was not limited to:</p> <ul style="list-style-type: none"> • all major B.5.b contingency response equipment staged throughout the site; • fire protection and suppression equipment in the reactor buildings, control buildings, turbine buildings, intake structure, diesel generator building, circulating water canals, main and auxiliary transformers, fire water storage tanks, fire pump house, fire pump diesel fuel oil tanks, switchyard fire protection valve houses, and portable firefighting storage facilities. <p>Licensee flood and fire mitigation procedures were reviewed to verify usability. The results of the inspector's reviews aligned with the licensee's conclusions above. The inspectors agree that there is a general beyond-design-basis vulnerability associated with non-seismically qualified systems, structures, and components that would be used to mitigate fire or flood events.</p>

	Discuss general results including corrective actions by licensee. Briefly summarize any new mitigating strategies identified by the licensee as a result of their reviews.
	<p>The following have been entered into the site's corrective action program to ensure tracking to completion and documentation of results.</p> <ul style="list-style-type: none">• Expand current guidance in 31EO-TSG-001-0 to include required equipment and direction for setting up the B.5.b pump close to the river and using the river as a suction water source in case U1/U2 circ water flumes are unavailable after a seismic event. Purchase/obtain this equipment and store with current B.5.b equipment and add to inventory check list. CR written 2011104812.• Verify current contract and adjust if necessary to ensure diesel fuel for EDMG pump can be delivered to the site during emergency conditions and provide minimum of 10,000 gals. CR written 2011104811.

Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. Sonny Barger and other members of licensee management at the conclusion of the inspection on April 28, 2011. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

S. Bargeron, Plant Manager
B. Duval, Site Support Manager
C. Goodman, Operations Senior Reactor Operator
G. Johnson, Engineering Director
D. Madison, Hatch Vice President
R. Varnadore, Operations Manager

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
31EO-TSG-001-0	Technical Support Guidelines	Ver. 2.16
31EO-EOP-101-1	Emergency Containment Venting	Ver. 3.4
UFSAR	Hatch Unit 1 and Unit 2 Final Safety Analysis Report	
05000321,366/2008007	HATCH NUCLEAR PLANT – TI 2515/171 VERIFICATION OF SITE SPECIFIC IMPLEMENTATION OF B.5.b PHASE 2 AND 3 MITIGATING STRATEGIES	

03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
34AB-R22-003-1	Station Blackout	Ver. 3.6
UFSAR	Hatch Unit 1 and Unit 2 Final Safety Analysis Report	

03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
RER C110371101	Walkdown Information for Inspection of Internal and External Flooding Features	

UFSAR	Hatch Unit 1 and Unit 2 Final Safety Analysis Report	
IPEEE	Hatch Unit 1 and Unit 2 Individual Plant Examination of External Events	
05000321,366/2008007	HATCH NUCLEAR PLANT – TI 2515/171 VERIFICATION OF SITE SPECIFIC IMPLEMENTATION OF B.5.b PHASE 2 AND 3 MITIGATING STRATEGIES	
34AB-Y22-002-0	Naturally Occurring Phenomena	6.12
31EO-EOP-014-2	Secondary Containment Control Radioactivity Release Control	10.0
34GO-OPS-013-2	Normal Plant Shutdown	28.5
34GO-OPS-014-2	Fast Reactor Shutdown	11.6

03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
UFSAR	Hatch Unit 1 and Unit 2 Final Safety Analysis Report	
IPEEE	Hatch Unit 1 and Unit 2 Individual Plant Examination of External Events	
05000321,366/2008007	HATCH NUCLEAR PLANT – TI 2515/171 VERIFICATION OF SITE SPECIFIC IMPLEMENTATION OF B.5.b PHASE 2 AND 3 MITIGATING STRATEGIES	
31EO-TSG-001-0	Technical Support Guidelines	2.16
34AB-Y22-002-0	Naturally Occurring Phenomena	6.12